

# **Serial to Ethernet Converter STE03-B**

## **User Manual**

Ver. 1.2

## DECLARATION OF COMPLIANCE

With the present MG S.r.l. declares that the product STE03 is in compliance with the essential requirements and other relevant provisions of Directive 1999/05/EC, with reference to the following regulatory standards:

EN55022  
EN55024  
EN61000-3-2  
EN60950

## INTRODUCTION

The contents of this manual may change without notice. MG S.r.l. assumes no responsibility for errors and/or omissions technicians.

## TECHNICAL CHARACTERISTICS

### SUPPORTED PROTOCOLS

- TCP, UDP, IP, ARP, ICMP, DHCP.
- Server operating mode.

### NETWORK ETHERNET CONNECTION

- Auto-sensing 10/100 Mbps on RJ45.

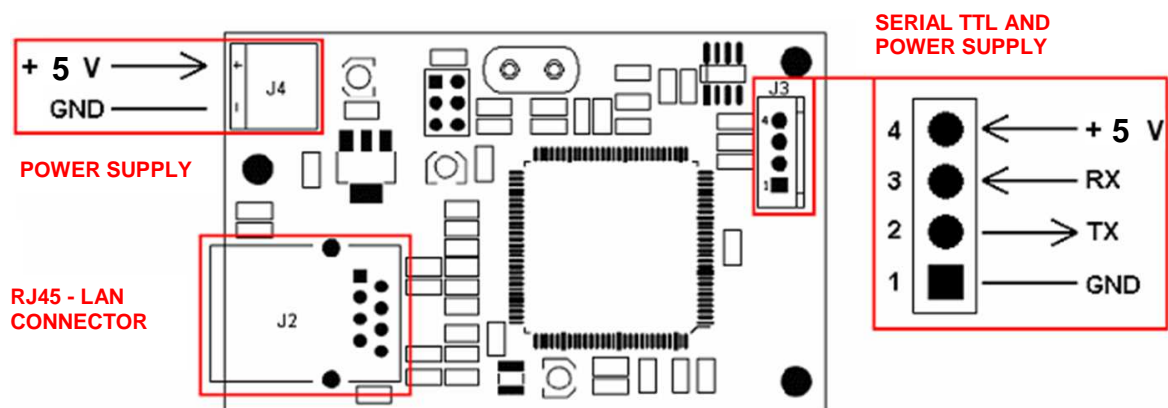
### SERIAL PORT

- 1 asynchronous TTL serial port 3,3 V on 2,54 pitch strip connector.
- Speed from 1200 to 115200 bps.
- Signals: TXD, RXD.
- Data format: 8 bits; parity None, Even, Odd; 1 stop bit.

### OTHER FEATURES

- Power Supply: 5 Vdc
- Consumption: 0,6 W (10 Mbit); 1,3 W (100 Mbit)
- LED: link, activity.
- Operating temperature: -20°C ÷ 60 °C.
- Humidity: 5 ÷ 90 % not condensing.
- Dimensions: 70x17x45 (LxHxW).
- 1.5 KV insulation on Ethernet.
- RoHS.

## COLLEGAMENTI



### J3 CONNECTOR

- 1 - GND
- 2 - TX (module output)
- 3 - RX (module input)
- 4 - +5 Vdc

Power can be supplied either from J4 connector or J3 connector pins 1-4.

## SOFTWARE INSTALLATION

To configure the device easily you can use the installation wizard. This procedure allows you to install and run STECfg that allows you to automatically detect STE03 devices in the network which are linked and initialize the main parameters for its proper functioning as well.



**Fig. 1 - Installation procedure: Welcome Page.**

To install the application you simply open the file "setup.exe" on the provided CD and follow the installation wizard. After this procedure you can launch STECfg from Start\Programs\STE03\ folder or from the directory where you chose to install the program. After installation you can launch the application by selecting the option shown in Figure 2.



**Fig. 2 - Setup: Setup completed.**

## USING STECfg

### INTRODUCTION

STECfg is the configuration program that allows the user to configure the serial port and the network parameters of the STE03 module.

The program consists of a single window that contains inside it all the options and configurable parameters; the fields have been grouped by topic and then divided into main categories.

When you start the program, it appears as in figure 3.

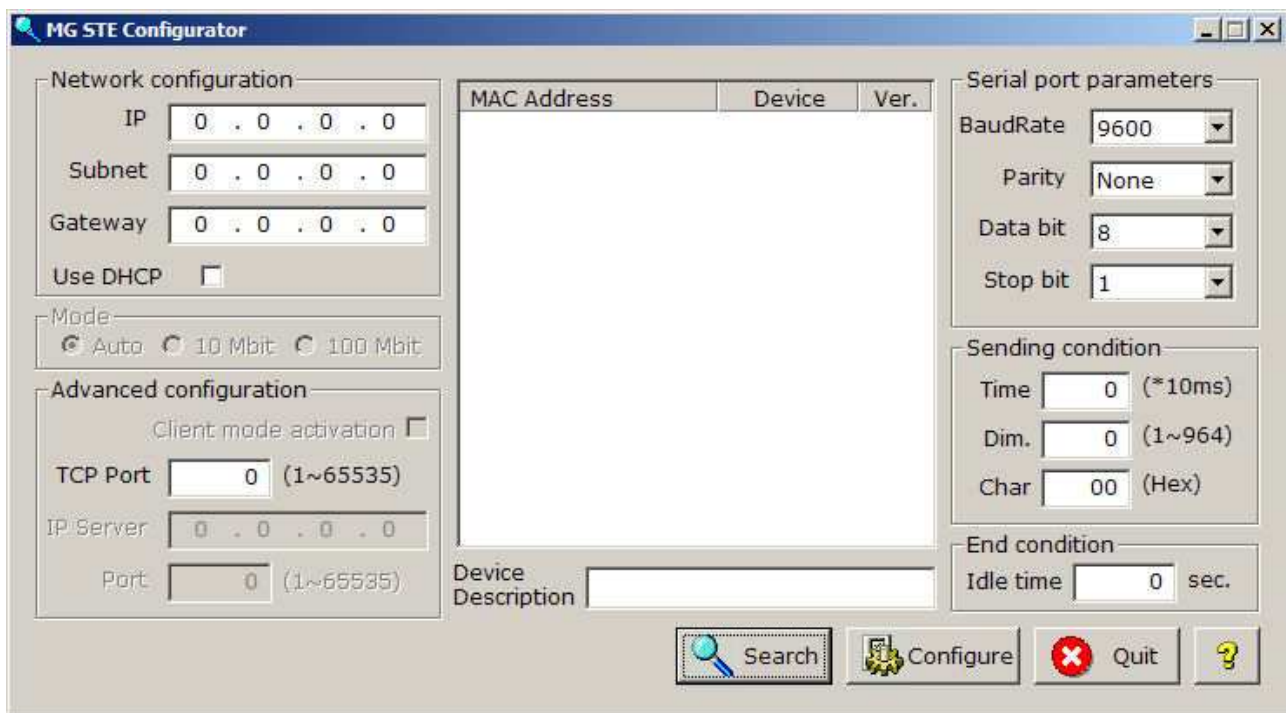


Fig. 3 - Main Window.

### LOOK FOR DEVICES

To search for STE03 devices on the network press the *search* button. After the search, the list of detected devices will appear in the main window, its MAC address, product name and version. If any device is not detected on the network, you will see a warning message.

### EDITING OF PARAMETERS

Then simply select a device to change its parameters; when you select a device from the list all the fields on the window are filled with the current values of the selected device as shown in figure 4:

#### NETWORK CONFIGURATION

- **IP:** IP address of device, configurable values range from 0.0.0.1 to 223,255,255,255.
- **Subnet:** Subnet Mask of device, valid values greater than 254.255.255.255.
- **Gateway:** IP address of gateway, if there is no gateway set to 0.0.0.0.
- **Use DHCP:** if selected active IP address assignment from DHCP Server. Do not enable this option unless you are sure that the network has a DHCP Server.

#### MODE

- **Auto/10Mbit/100Mbit:** set Ethernet Speed.

## ADVANCED CONFIGURATION

- **TCP PORT:** is the gate of the TCP/IP protocol on which the communication takes place with the serial port of the device. Valid values are between 1 and 65535.

The screenshot shows the 'MG STE Configurator' window. It is divided into several sections:

- Network configuration:** IP (192.168.100.100), Subnet (255.255.255.0), Gateway (0.0.0.0), Use DHCP (unchecked).
- Mode:** Radio buttons for Auto, 10 Mbit, and 100 Mbit (selected).
- Advanced configuration:** Client mode activation (unchecked), TCP Port (5000, range 1~65535), IP Server (255.255.255.255), Port (65535, range 1~65535).
- Table:** A table with columns 'MAC Address', 'Device', and 'Ver.'. The first row shows '00:50:C2:71:D4:DF', 'STE03', and '3'.
- Serial port parameters:** BaudRate (19200), Parity (None), Data bit (8), Stop bit (1).
- Sending condition:** Time (0, \*10ms), Dim. (0, 1~964), Char (00, Hex).
- End condition:** Idle time (0 sec).
- Device Description:** A text field.
- Buttons:** Search, Configure, Quit, and Help.

Fig. 4 - Parameters visualization

## SERIAL PORT PARAMETERS

- **Speed:** serial port speed.
- **Parity:** parity of the serial port. None (disabled), Even, Odd.
- **Dat Bit:** default 8.
- **Stop Bit:** default 1.

## SENDING CONDITION

The conditions are applied to incoming data from Serial Port, then outgoing on the LAN.

- **Time:** is the time, expressed in 1/100 of sec., since the last data received on the serial port, after which the data is actually sent on the LAN. Valid values range from 0 to 9999. If this parameter is greater than 0 you will also need to set "Dim." field, but if it is 0 the option is disabled.
- **Dim:** you can choose between 0 and 964, the number of bytes to receive before sending. As in the previous field, if the value is 0 the option is disabled and the received data are immediately sent.
- **Char:** hexadecimal value that represents the data to send, it can assume any value; if it is set to zero, it is disabled. If not zero the device stores the data and sends them when this character is received (the byte is also sent). In this case you must specify a value of "Dim."

## END CONDITION

- **Idle Time:** value expressed in seconds after which the TCP connection is closed. The timeout is reset every received data.

## SEND THE CONFIGURATION

After selecting a device and changing the fields with the desired values, simply press the *Configure* button to send all the parameters. If the parameters are accepted, the device reboots and at the end of operations it will display the window shown in figure 5.



**Fig. 5 - Configuration completed**

**NOTE:** You can not configure devices with not supported software versions.

## MORE INFORMATION

The 'Quit' and '?' buttons are used respectively to close the application and to display information on the software version.